

PRODUCTION OF PROCESSED SHELLFISH

Patent Number: JP4356156
Publication date: 1992-12-09
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Requested Patent: ☒ JP4356156
Application Number: JP19910127839 19910530
Priority Number(s):
IPC Classification: A22C29/04
EC Classification:
Equivalents: JP2989034B2

Abstract

PURPOSE: To produce a processed shellfish having its contents in a substantially raw state by simple operations, by applying a high pressure to a raw shellfish with a shell and subsequently opening the shell.
CONSTITUTION: A raw shellfish with a shell such as an oyster, clam or short-necked clam and sea water are sealed with a plastic container and subsequently subjected to a high pressure of 1-44 atmospheres. The shell of the treated shellfish is easily opened to provide the objective processed shellfish.

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(19) 日本国特許庁 (J P)

(12) 公開特許公報 (A)

(11) 特許出願公開番号

特開平4-356156

(43) 公開日 平成4年(1992)12月9日

(51) Int.Cl. ³ A 2 2 C 29/04	識別記号 2114-4B	庁内整理番号 2114-4B	F I	技術表示箇所
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審査請求 未請求 請求項の数 1 (全 2 頁)

<p>(21) 出願番号 特願平3-127839</p> <p>(22) 出願日 平成3年(1991)5月30日</p>	<p>(71) 出願人 591116036 アヲハタ株式会社 広島県竹原市忠海町4395番地</p> <p>(72) 発明者 三 浦 靖 史 広島県竹原市忠海町4395番地 アヲハタ株式会社内</p> <p>(72) 発明者 廿日出 郁 夫 広島県竹原市忠海町4395番地 アヲハタ株式会社内</p> <p>(74) 代理人 弁理士 佐藤 一雄 (外2名)</p>
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(54) 【発明の名称】 加工具の製造法

(57) 【要約】

【目的】 生の貝の殻が人の手で容易に開けられるような加工具の製造法を提供する。

【構成】 本発明の加工具の製造法は、殻付の生の貝に高圧をかけることを構成とする。

【特許請求の範囲】

【請求項1】 殻付の生の貝に高圧をかけることを特徴とする加工具の製造法。

【発明の詳細な説明】

【0001】

【産業上の利用分野】 本発明は、新規な加工具の製造法に関する。

【0002】

【従来の技術】 殻付の生の貝、例えばカキなどは、殻を開けるのにかなり困難を伴うことは従来からよく知られている。

【0003】

【発明が解決しようとする課題】 すなわち、殻付の生の貝の殻を開くにはかなりの力が必要だけでなく、熟練した人でないと殻を壊してしまうなど、通常作業上かなりの技巧を必要とする。それ故、生の貝の殻を容易に、より具体的には単に人の手で開けることができるならば作業上益することは多大である。よって、本発明は、生の貝の殻が人の手で容易に開けられるような加工具を製造する方法を提供することを目的とする。

【0004】

【課題を解決するための手段】 本発明者らは鋭意研究の結果、上記の目的は、高圧処理手段を利用することにより達成されることを見出し、本発明を完成するに至った。本発明は、殻付の生の貝に高圧をかけることを特徴とする加工具の製造法を提供するものである。

【0005】 以下、本発明を詳しく説明する。本発明において殻付の生の貝とは、殻の付いたままの未だ生きている貝をいう。貝の種類によって限定されるものではないが、代表的にはカキ、ハマグリ、アサリなどを挙げることができる。

【0006】 本発明の方法によれば、このような殻付の生の貝に高圧をかける。ここにおいて「高圧」とは、一般的に大気圧の1千倍以上の圧力をいう。実用的には1～4千気圧（1気圧は約1Kg/cm²）程度でよい。また、「高圧をかける」とは、殻付の生の貝をこのような気圧下に一定時間保持することをいう。具体的には2千気圧の場合は3～10分間、3千気圧の場合は0.5～5分間、4千気圧の場合は0.5～3分間程度を目安とすればよい。保持時間があまり短いと本発明の所期の目的は達成し難く、また、保持時間があまり長くても、上記の保持時間程度で殻は既に人の手で容易に開けられることから不経済であるだけでなく、貝の蛋白質成分が変質し易くなる傾向が生じる。

【0007】 高圧のかけ方は、特に限定されるものではないが、実際には、例えばプラスチック製の容器に殻付の生の貝を海水と共に収容、密封後、これを高圧加工装

置（例えば、三菱重工業（株）製のMCT-150型）に配置して所定の高圧をかければよい。

【0008】 上記したような本発明の方法により製造された加工具は、人の手で容易にその殻を開けることができ、よって従来の殻開けに比べて作業性の極めて高いものである。

【0009】

【作用】 殻付の生の貝に高圧をかけると、おそらく、貝柱の部分の筋肉が何らかの影響を受け、殻を開ける作用がし難くなり、よって人の手によりその殻を容易に開けることができるようになるのではないかと考えられる。

【0010】

【実施例】 以下、本発明を実施例および試験例をもって更に詳しく説明する。

実施例1

殻付の生のカキ2個をプラスチック製の袋にほぼ同容量の海水と共に収容、密封後、三菱重工業（株）製の高圧加工装置MCT-150型内に配置して3千気圧で3分間高圧をかけて、本発明の加工カキを製造した。

【0011】 実施例2

殻付の生のハマグリ4個をプラスチック製の袋にほぼ同容量の海水と共に収容、密封後、上記実施例1で用いた高圧加工装置内に配置して4千気圧で2分間高圧をかけて、本発明の加工ハマグリを製造した。

【0012】 試験例

上記実施例1で得られた本発明の加工カキと、対照として高圧処理をしてない殻付の生のカキに対して、人の手による殻の開き具合を比較試験したところ、結果は以下の通りであった。

試験項目	本発明の加工カキ	対照の高圧処理カキ
人の手による殻の開き具合	○	×

註1：○は人の手で貝の殻が容易に開けうることを意味し、

×は人の手では貝の殻が簡単には開けられないことを意味する。

2：本発明の加工カキは殻を開けてみたところ、実質上生のカキと何ら変らない状態であった。

【0013】

【発明の効果】 本発明の方法により、貝の殻の極めて開け易い、しかも身は実質上生の状態のままである加工具が提供される。

Japanese Published Unexamined (Kokai) Patent Application No. H4-356156, published December 9, 1992; Application No. H3-127839, filed May 30, 1991; Int. Cl.⁵: A22C 29/04; Inventor(s): Yasushi Miura et al.; Assignee: Aohata Corporation; Japanese Title: Kakougai no Seizouhouhou (Method for Manufacture of Processed Shellfish)

[Title of Invention]

Method for Manufacture of Processed Shellfish

[Summary]

[Purpose]

To offer a method for manufacture of processed shellfish so that the shell of raw shellfish can be easily opened with fingers.

[Structure]

A method for manufacture of processed shellfish of the present invention is formed such that a high pressure is applied onto raw shellfish with a shell.

[Claim]

[Claim 1]

A method for manufacture of processed shellfish, characterized in that a high pressure is applied onto raw shellfish with a shell.

[Detailed Description of the Invention]

[0001]

[Field of Industrial Application]

This invention pertains to new manufacturing methods for processed shellfish.

[0002]

[Prior Art]

It is conventionally known that it is extremely difficult to open shells of raw shellfish such as oysters.

[0003]

[Problem of Prior Art to Be Addressed]

More specifically, an extremely strong force is required to open shells of raw shellfish, and extremely high techniques are usually required for the work because shells are easily broken unless trained workers handle them. For said reasons, if shells of raw shellfish are easily opened, more specifically, merely with fingers, there is a great benefit on the work. Accordingly, the purpose of the present invention is to offer a method for manufacture of processed shellfish so that the shell of raw shellfish is easily opened with fingers.

[0004]

[Measures to Solve the Problem]

After the inventors had eagerly researched, they have found that said purpose can be attained by using a high pressure treatment means; consequently, the present invention is

attained. The present invention offers a method for manufacture of processed shellfish which is characterized in that a high pressure is applied onto raw shellfish with a shell.

[0005]

The present invention is described hereinbelow in detail. Raw shellfish with a shell of the present invention refers to living shellfish with a shell. Said living shellfish is not limited by types of shellfish; however, the following types can be typically given: an oyster; a clam; a short-necked clam.

[0006]

When a method of the present invention is used, a high pressure is applied to such raw shellfish with a shell. In this case, "a high pressure" generally refers to a 1000 or more time higher pressure than atmospheric pressure. Practically, atmospheric pressure at about 1000 to 4000 normal atmosphere (1 normal atmosphere is equivalent to about 1 Kg/cm²) is used. Additionally, "applying a high pressure" means that raw shellfish with a shell is maintained at said atmospheric pressure for a predetermined period of time. More specifically, when the atmospheric pressure is at 2000 normal atmosphere, shellfish should be maintained under said pressure for about 3 to 10 minutes; when the atmospheric pressure is at 3000 normal atmosphere, shellfish should be maintained under said pressure for about 0.5 to 5 minutes, when the atmospheric pressure is at 4000 normal atmosphere, shellfish should be maintained under said pressure for about 0.5 to 3 minutes. If said maintaining period is too short, an initial purpose of the present invention is not easily attained; on the other hand, if said

maintaining period is too long, it is a waste of money because the shell can be already opened with fingers since maintaining time periods as described above have passed, and protein of the shellfish tends to be easily modified.

[0007]

A means to apply a high pressure is not particularly limited to a specific means; however, in the actual situation, a pressure is applied such that, after raw shellfish with a shell and sea water have been accommodated into a plastic container and after said plastic container with said raw shellfish and said sea water has been sealed, said sealed plastic container is placed into a high pressure processing device (for example, an MCT-150 model produced by Mitsubishi Heavy Industries Corporation) so as to apply a predetermined high pressure.

[0008]

The shell of processed shellfish manufactured by using a method of the present invention as described above can be easily opened with fingers; for said reason, an extremely improved workability can be obtained in comparison with that for prior art shell opening work.

[0009]

[Effect]

It is assumed that, when a high pressure is applied onto raw shellfish with a shell, a

muscle of the eye of said raw shellfish is somehow affected; as a result, the shell is not easily closed; that, because of this, the shell can be easily opened by fingers.

[0010]

[Embodiment]

The present invention is described hereinbelow in detail with reference to the embodiments and the testing example.

Embodiment 1

Two oysters with shells and sea water at an amount equivalent to that of said oysters are accommodated into a plastic bag; after said plastic bag with oysters and sea water accommodated has been sealed, said sealed plastic bag is placed into a high pressure processing device, the MCT-150 model produced by Mitsubishi Heavy Industries Corporation; a high pressure at 3000 normal atmosphere is applied for 3 minutes so as to manufacture processed oysters of the present invention.

[0011]

Embodiment 2

Four clams with shells and sea water at an amount equivalent to that of said clams are accommodated into a plastic bag; after said plastic bag with clams and sea water accommodated has been sealed, said sealed plastic bag is placed into a high pressure processing device used as in Embodiment 1; a high pressure at 4000 normal atmosphere is

applied for 2 minutes so as to manufacture processed clams of the present invention.

[0012]

Testing example

As for processed oysters of the present invention obtained as in Embodiment 1 as described above and comparative raw oysters with shells that are not treated at a high pressure, when the degree of opening of the shells by fingers is tested by a comparison means, the following results are obtained:

<u>Testing items</u>	<u>Processed oysters of the present invention</u>	<u>comparative oysters without treating at a high pressure</u>
Degree of opening of shells with fingers	○	×

Note 1: symbol ○ stands for a state at which the shells of shellfish can be easily opened with fingers; symbol × stands for a state at which the shells of shellfish cannot be easily opened with fingers.

Note 2: when the shells of processed oysters of the present invention are opened, the condition does not substantially differ from that of raw oysters.

[0013]

[Advantageous Result of the Invention]

According to a method of the present invention, processed shellfish wherein the shell of said shellfish is extremely easily opened and wherein the meat is substantially at a raw condition is offered.

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